
IN THE CLAIMS

1.(Original) A data visualisation system comprising:

a data value memory in which is maintained a finite set of data values; and
display means arranged to display a contoured representation wherein one or more of the data values are displayed as contours around one or more data points, each data value centered on a data point.

Claims 2-46 (Cancelled)

47. (Currently Amended) A data visualization system comprising:

a data value memory in which is maintained a finite set of data values; [and]
a display arranged to display a representation of each data value centered on respective data points; and

a contour generator [a display] arranged to generate and display [a contoured representation wherein one or more of the data values are displayed as contours around one or more data points, each data value centered on a data point.] one or more contour lines representing a surface in which each data point is displayed as a local maximum.

48.(Original) A data visualisation system as claimed in claim 47 further comprising a memory in which is maintained an interaction database of interaction data representing interactions between customers and merchants; and a retrieval device arranged to retrieve from the interaction database data representing interactions between customers and merchants, to construct the finite set of data values from the retrieved data and to store the data values in the data value memory.

49.(Cancelled)

50. (Currently Amended) A data visualization system as claimed in claim [49] 48 wherein the merchant operates from one or more commercial premises, the display further arranged to display a graphical spatial representation of the premises of the merchant.

51.(Original) A data visualisation system as claimed in claim 50 wherein the merchant sells a range of products to customers, each product having a product code, the interaction data comprising a product code for each interaction.

52.(Original) A data visualisation system as claimed in claim 50 wherein the merchant operates a casino or gaming venue comprising one or more stations, each station having a station identifier, the interaction data comprising a station identifier for each interaction.

53.(Original) A data visualisation system as claimed in claim 50 wherein the merchant comprises a wagering or betting service provider, the interaction data comprising a merchant identifier and a monetary value for each interaction.

b1 54.(Original) A data visualisation system as claimed in claim 50 wherein the merchant comprises a financial or insurance services provider comprising one or more business units, each business unit having a business unit identifier, the interaction data comprising a business unit identifier for each interaction.

55.(Original) A data visualisation system as claimed in claim 50 wherein the merchant provides reservation of products or services, the interaction data comprising a merchant identifier and the time of the interaction for each interaction.

56. (Currently Amended) A data visualization system as claimed in claim [49] 47 further comprising:

a memory in which is maintained a manufacturing process database of data representing one or more manufacturing processes; and
a retrieval device arranged to retrieve from the manufacturing process database data representing a manufacturing process, to construct the finite set of data values from the retrieved data and to

store the data values in the data value memory. [wherein the merchant operates a manufacturing facility, the display further arranged to display a graphical representation comprising a representation of a manufacturing process of the merchant.]

57.(Original) A data visualisation system as claimed in claim 56 wherein the manufacturing process comprises one or more manufacturing stages, each stage having a stage identifier, the interaction data comprising a stage identifier for each interaction.

58. (Currently Amended) A data visualization system as claimed in claim [49] 48 wherein the merchant comprises a telecommunications service provider operating a telecommunications network, the display further arranged to display a graphical spatial representation of a network or part of a network operated by a merchant.

b 59. (Currently Amended) A data visualization system as claimed in claim [49] 48 wherein the merchant operates from one or more web sites which are accessed by customers over a computer network, the display further arranged to display a graphical representation comprising a graphical web site map of a merchant.

60. (Currently Amended) A data visualization system as claimed in claim [58] 48 wherein the display is further arranged to display [a topological] an area map showing the origin of customers in merchant customer interactions.

61.(Original) A data visualisation system as claimed in claim 47 further comprising a memory in which is maintained a sports database of data representing one or more sports events; and a retrieval device arranged to retrieve from the sports database data representing a sports event, to construct the finite set of data values from the retrieved data and to store the data values in the data value memory.

62.(Original) A data visualisation system as claimed in claim 61 wherein the display is further arranged to display a graphical representation of a sports venue at which the sports event is held

and to superimpose the contoured representation of the data values on the graphical representation of the sports venue.

63. (Currently Amended) A method of data visualization comprising the steps of:
maintaining in a data value memory a finite set of data values; [and

displaying a contoured representation wherein one or more of the data values are displayed as contours around one or more data points, each data value centered on a data point.] displaying a representation of each data value centered on respective data points; and

generating and displaying one or more contour lines representing a surface in which each data point is displayed as a local maximum.

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64. (Original) A method of data visualisation as claimed in claim 63 further comprising the steps of maintaining in a memory an interaction database of interaction data representing interactions between customers and merchants; retrieving from the interaction database data representing interactions between customers and merchants; constructing the finite set of data values from the retrieved data; and storing the data values in the data value memory.

65. (Cancelled)

66. (Currently Amended) A method of data visualization as claimed in claim [68] 64 wherein the merchant operates from one or more commercial premises, the method further comprising the step of displaying a graphical spatial representation of the premises of the merchant.

67. (Original) A method of data visualisation as claimed in claim 66 wherein the merchant sells a range of products to customers, each product having a product code, the method further comprising the steps of maintaining a product code for each interaction in the interaction data.

68. (Original) A method of data visualisation as claimed in claim 66 wherein the merchant operates a casino or gaming venue comprising one or more stations, each station having a station

identifier, the method further comprising the steps of maintaining a station identifier for each interaction in the interaction data.

69.(Original) A method of data visualisation as claimed in claim 66 wherein the merchant comprises a wagering or betting service provider, the method further comprising the steps of maintaining a merchant identifier and a monetary value for each interaction in the interaction data.

70.(Original) A method of data visualisation as claimed in claim 66 wherein the merchant comprises a financial or insurance services provider comprising one or more business units, each business unit having a business unit identifier, the method further comprising the steps of maintaining a business unit identifier for each interaction in the interaction data.

b/ 71.(Original) A method of data visualisation as claimed in claim 66 wherein the merchant provides reservation of products or services, the method further comprising the steps of maintaining a merchant identifier and the time of the interaction for each interaction in the interaction data.

72. (Currently Amended) A method of data visualization as claimed in claim [65] 63 [wherein the merchant operates a manufacturing facility, the display further arranged to display a graphical representation comprising a representation of a manufacturing process of the merchant.] further comprising the steps of:

maintaining in a memory a manufacturing process database of data representing one or more manufacturing processes;

retrieving from the manufacturing process database data representing a manufacturing process;

constructing the finite set of data values from the retrieved data; and

storing the data values in the data value memory.

73.(Original) A method of data visualisation as claimed in claim 72 wherein the manufacturing process comprises one or more manufacturing stages, each stage having a stage identifier, the

method further comprising the steps of maintaining a stage identifier for each interaction in the interaction data.

74. (Currently Amended) A method of data visualization as claimed in claim [65] 64 wherein the merchant comprises a telecommunications service provider operating a telecommunications network, the display further arranged to display a graphical spatial representation of a network or part of a network operated by a merchant.

75. (Currently Amended) A method of data visualization as claimed in claim [65] 64 wherein the merchant operates from one or more web sites which are accessed by customers over a computer network, the display further arranged to display a graphical representation comprising a graphical web site map of a merchant.

76. (Currently Amended) A method of data visualization as claimed in claim 64 wherein the display means is further arranged to display [a topological] an area map showing the origin of customers in merchant customer interactions.

b1 77.(Original) A method of data visualisation as claimed in claim 63 further comprising the steps of maintaining in a memory a sports database of data representing one or more sports events; retrieving from the sports database data representing a sports event; constructing the finite set of data values from the retrieved data; and storing the data values in the data value memory.

78.(Original) A method of data visualisation as claimed in claim 77 further comprising the steps of displaying a graphical representation of a sports venue at which the sports event is held; and superimposing the contoured representation of the data values on the graphical representation of the sports venue.

79. (Currently Amended) A data visualization computer program comprising:
a finite set of data values maintained in [a data value] computer memory; [and

a display arranged to display a contoured representation wherein one or more of the data values are displayed as contours around one or more data points, each data value centered on a data point.]

a display arranged to display a representation of each data value centered on respective data points; and

a contour generator arranged to generate and display one or more contour lines representing a surface in which each data point is displayed as a local maximum.

80. (Currently Amended) A data visualization computer program as claimed in claim [75] 79 further comprising an interaction database of interaction data representing interactions between customers and merchants maintained in a memory; and a retrieval device arranged to retrieve from the interaction database data representing interactions between customers and merchants, to construct the finite set of data values from the retrieved data and to store the data values in the data value memory.

81. (Cancelled)

82. (Currently Amended) A data visualization computer program as claimed in claim [81] 80 wherein the merchant operates from one or more commercial premises, the display further arranged to display a graphical spatial representation of the premises of the merchant.

83. (Original) A data visualisation computer program as claimed in claim 82 wherein the merchant sells a range of products to customers, each product having a product code, the interaction data comprising a product code for each interaction.

84. (Original) A data visualisation computer program as claimed in claim 82 wherein the merchant operates a casino or gaming venue comprising one or more stations, each station having a station identifier, the interaction data comprising a station identifier for each interaction.

85.(Original) A data visualisation computer program as claimed in claim 82 wherein the merchant comprises a wagering or betting service provider, the interaction data comprising a merchant identifier and a monetary value for each interaction.

86.(Original) A data visualisation computer program as claimed in claim 82 wherein the merchant comprises a financial or insurance service provider comprising one or more business units, each business unit having a business unit identifier, the interaction data comprising a business unit identifier for each interaction.

87.(Original) A data visualisation computer program as claimed in claim 82 wherein the merchant provides reservation of products or services, the interaction data comprising a merchant identifier and the time of the interaction for each interaction.

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88. (Currently Amended) A data visualization computer program as claimed in claim 81 [wherein the merchant operates a manufacturing facility, the display further arranged to display a graphical representation comprising a representation of a manufacturing process of the merchant.] further comprising:

a manufacturing process database maintained in computer memory of data representing one or more manufacturing processes; and

a retrieval device arranged to retrieve from the manufacturing process database data representing a manufacturing process, to construct the finite set of data values from the retrieved data and to store the data values in computer memory.

89.(Original) A data visualisation computer program as claimed in claim 88 wherein the manufacturing process comprises one or more manufacturing stages, each stage having a stage identifier, the interaction data comprising a stage identifier for each interaction.

90. (Currently Amended) A data visualization computer program as claimed in claim [81] 80 wherein the merchant comprises a telecommunications service provider operating a telecommunications network, the display further arranged to display a graphical spatial representation of a network or part of a network operated by a merchant.

91. (Currently Amended) A data visualization computer program as claimed in claim [81] 80 wherein the merchant operates from one or more web sites which are accessed by customers over a computer network, the display further arranged to display a graphical representation comprising a graphical web site map of a merchant..

91. (Currently Amended) A data visualization computer program as claimed in claim [81] 80 wherein the merchant operates from one or more web sites which are accessed by customers over a computer network, the display further arranged to display a graphical representation comprising a graphical web site map of a merchant..

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93.(Original) A data visualisation computer program as claimed in claim 79 further comprising a sports database of data representing one or more sports events maintained in a memory; and a retrieval device arranged to retrieve from the sports database data representing a sports event, to construct the finite set of data values from the retrieved data and to store the data values in the data value memory.

94.(Original) A data visualisation computer program as claimed in claim 93 wherein the display is further arranged to display a graphical representation of a sports venue at which the sports event is held and to superimpose the contoured representation of the data values on the graphical representation of the sports venue.

95.(Original) A data visualisation computer program as claimed in claim 79 embodied on a computer readable medium.

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96. (New) A data visualization system comprising:
a data value memory in which is maintained a finite set of data values;
a display arranged to display a representation of each data value centered on respective data points; and
a contour generator arranged to generate and display a contoured representation such that each data point is displayed as a local maximum.

97. (New) A data visualization system as claimed in claim 96 further comprising:
a memory in which is maintained an interaction database of interaction data representing
interactions between customers and merchants; and
a retrieval device arranged to retrieve from the interaction database data representing
interactions between customers and merchants, to construct the finite set of data values from the
retrieved data and to store the data values in the data value memory.

98. (New) A data value memory in which is maintained a finite set of data values;
a display arranged to display a representation of each data value centered on respective
data points; and
a contour generator arranged to generate and display one or more contour lines at least
partially around each data point or group of data points, each contour line representing data
values that are less than the data value(s) of the data point(s) around which the contour line is
displayed.

b2 99. (New) A method of data visualization comprising the steps of:
maintaining in a data value memory a finite set of data values;
displaying a representation of each data value centered on respective data points; and
generating and displaying a contoured representation such that each data point is
displayed as a local maximum.

100. (New) A method of data visualization as claimed in claim 99 further comprising the
steps of:
maintaining in a memory an interaction database of interaction data representing
interactions between customers and merchants;
retrieving from the interaction database data representing interactions between customers
and merchants;
constructing the finite set of data values from the retrieved data; and
storing the data values in the data value memory.

101. (New) A method of data visualization comprising the steps of:

maintaining in a data value memory a finite set of data values;
displaying a representation of each data value centered on respective data points; and
generating and displaying one or more contour lines at least partially around each data point or group of data points, each contour line representing data values that are less than the data value(s) of the data point(s) around which the contour line is displayed.

102. (New) A data visualization computer program:

a finite set of data values maintained in computer memory;
a display arranged to display a representation of each data value centered on respective data points; and
a contour generator arranged to generate and display a contoured representation such that each data point is displayed as a local maximum.

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103. (New) A data visualization computer program as claimed in claim 100 further comprising an interaction database of interaction data representing interactions between customers and merchants maintained in computer memory; and

a retrieval device arranged to retrieve from the interaction database data representing interactions between customers and merchants, to construct the finite set of data values from the retrieved data and to store the data values in computer memory.

104. (New) A data visualization computer program comprising:

a finite set of data values maintained in computer memory;
a display arranged to display a representation of each data value centered on respective data points; and
a contour generator arranged to generate and display one or more contour lines at least partially around each data point or group of data points, each contour line representing data values that are less than the data value(s) of the data point(s) around which the contour line is displayed.